9/18/00

PTO/SB/05 (4/98)
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53 (b))

Attorney Docket No.	8058-PA01
First Inventor or Application Identifier	Alexander Marc Jacques Brouaux
Title	DYNAMIC GRAPHIC USER INTERFACE
Express Mail Label No.	EL 584702494 US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: **Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231**

1. [X] *Fee Transmittal Form *(e.g., PTO/SB/17)* *(Submit an original and a duplicate for fee processing)*
2. [X] Specification [Total Pages 11] *(preferred arrangement set forth below)*
   - -Descriptive title of invention
   - -Cross References to Related Applications
   - -Statement Regarding Fed sponsored R & D
   - -Reference to Microfiche Appendix
   - -Background of the Invention
   - -Brief Summary of the Invention
   - -Brief Description of the Drawings *(if filed)*
   - -Detailed Description
   - -Claims(s)
   - -Abstract of the Disclosure
3. [X] Drawing(s) *(35 U.S.C. 113)* [Total Sheets 5]
4. Oath or Declaration [Total Pages 2]
   - a. [X] Newly executed (original or copy)
   - b. [ ] Copy from a prior application (37 C.F.R. § 1.63 (d)) *(for continuation/divisional with Box 16 completed)*
     - i. [ ] DELETION OF INVENTOR(S) Signed Statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§1.63(d)(2) and 1.33(b)

NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37C.F.R. § 1.28).

5. [ ] Microfiche Computer Program *(Appendix)*
6. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   - a. [ ] Computer Readable Copy
   - b. [ ] Paper Copy (identical to computer copy)
   - c. [ ] Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. [ ] Assignment Papers (cover sheet & document(s))
8. [ ] 37 CFR §3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
9. [ ] English Translation Document *(if applicable)*
10. [X] Information Disclosure Statement (IDS)/PTO-1449 [X] Copies of IDS Citations
11. [ ] Preliminary Amendment
12. [X] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
13. [X] *Small Entity Statement(s) *(PTO/SB/09-12)* [X] Statement filed in prior application, Status still proper and desired
14. [ ] Certified copy of Priority Documents(s) *(if foreign priority is claimed)*
15. [ ] Other: .....

16. **If a CONTINUING APPLICATION,** *check appropriate box and supply the requisite information below and in a preliminary amendment:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior Application No: 60/153,993 (Provisional)

Prior application information: Examiner _____ Group / Art Unit: _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

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Name (Print/Type)	Edward C. Schewe	*Registration No. (Attorney/Agent)*	34,246
Signature	E C Schewe	*Date*	September 15, 2000

PTO/SB/17 (12/99)
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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2000

Patent fees are subject to annual revision.
Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12.
See 37 C.F.R. §§ 1.27 and 1.28.

TOTAL AMOUNT OF PAYMENT ($)345.00

Complete if Known	
Application Number	UNKNOWN
Filing Date	HEREWITH
First Named Inventor	Alexander Marc Jacques Brouaux
Examiner Name	
Group / Art Unit	
Attorney Docket No.	8058-PA01

METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 02-4070
Deposit Account Name: BROWN, MARTIN, HALLER & McCLAIN

☒ Charge Any Additional Fee Required Under 37 C.F.R. §§1.16 and 1.17

2. ☒ **Payment Enclosed:** ☒ Check ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	690	201	345	Utility filing fee	345.00
106	310	206	155	Design filing fee	
107	480	207	240	Plant filing fee	
108	690	208	345	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) ($)345.00

2. EXTRA CLAIM FEES

	Extra Claims			Fee from below		Fee Paid
Total Claims	3	-20**=	0	X 0	=	00
Independent Claims	3	- 3**=	0	X 0	=	00
Multiple Dependent					=	

**or number previously paid, if greater. For Reissues, see below.

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims excess of 3
104	260	204	130	Multiple dependent claim, if not paid
109	78	209	39	**Reissue independent claims over original patent
110	18	210	9	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($)

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - Late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	380	216	190	Extension for reply within second month	
117	870	217	435	Extension for reply within third month	
118	1,360	218	680	Extension for reply within fourth month	
128	1,850	228	925	Extension for reply within fifth month	
119	300	219	150	Notice of Appeal	
120	300	220	150	Filing a brief in support of appeal	
121	260	221	130	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,210	241	605	Petition to revive - unintentional	
142	1,210	242	605	Utility issue fee (or reissue)	
143	430	243	215	Design issue fee	
144	580	244	290	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	690	246	345	Filing a submission after final rejection (37 CFR 1.129(a))	
149	690	249	345	For each additional invention to be examined (37 CFR 1.129(b))	
				Other fee (specify)	
				Other fee (specify)	

* Reduced by Basic Filing Fee Paid **SUBTOTAL (3)** ($)

SUBMITTED BY				Complete (if applicable)	
Name (Print/Type)	Edward C. Schewe	Registration No. (Attorney/Agent)	34,246	Telephone	(619) 238-0999
Signature				Date	September 15, 2000

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Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

DYNAMIC GRAPHIC USER INTERFACE

RELATED APPLICATION DATA

This application claims the benefit of U.S. Provisional Application Serial No. 60/153,993 filed September 15, 1999, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

The invention described and claimed herein relates generally to user interfaces for computer systems and more particularly, graphical user interfaces. A graphical user interface or "GUI" facilitates communications between a computer operating system and a computer user. The computer system includes software and hardware, including hardware for a GUI which typically includes both a visual display (commonly a computer monitor) and selector device (commonly a mouse, trackball or keyboard). Through the visual display, the computer system can deliver graphical and textual output to the user.

A conventional GUI is made up of elements presented on the visual display which allow a user to activate an application in a computer operating system. Examples of such elements are the buttons, menus, menu items, scroll bars and the text input fields. Elements give the application the opportunity to

display information, such as zones of text or graphical displays. The layout of all the elements of a conventional GUI is generally already setup by the designer of the application, such as in the well-known WINDOWS® operating system made by Microsoft Corporation of Redmond, Washington.

Therefore, limited opportunities are presently available to reconfigure conventional computer applications. These typically include adjusting the position of certain controls like the toolbars. Such interfaces can be regarded as static because they do not allow the possibility of configuration by end-users. Moreover, all these elements are often of a rectangular or square shape, which is neither visually stimulating nor very pleasing to the eye.

SUMMARY OF THE INVENTION

The present invention provides a method and system by which users can completely reorganize a GUI to his or her personal taste. For clarity, the term element as used herein is the object which a user can move on the display device or computer screen using his or her selector device. The element is comprised of a core and an adjacent dynamic zone or edge. The core is the central part of the element. It is this core that is managed by the application program that uses the interface. The edge is the dynamic zone that preferably

surrounds the core. The edge manager is the software taking care of the management, the calculation and the display of the dynamic edges.

In a preferred embodiment, each element of the user interface in the present invention is surrounded by a dynamic edge instead of being surrounded by a static edge as in conventional systems. The present invention does not limit the shape of the core of the element to be rectangular, but allows the elements to be of any shape and in one or more pieces. The dynamic aspect of the present invention comes from the possibility of sticking or adhering together several cores in a visually coherent unit and doing it in real time.

For example, in one aspect, a user can manipulate his or her mouse and move an element, say element 1 which is green in color, towards element 2 which is red in color. The edges of element 1 merge with the edges of element 2 in real time and are updated at each movement by the edge manager, provided that the cores of the elements are not overlapping. In one aspect, this merging can be reversed and the user needs only to move one of the two elements way from the other element so that they no longer contact each other and the edges of the respective elements return to their initial size, shape and/or color.

Thus, it is an object of the present invention to provide a dynamic graphic user interface. Other and further objects will appear to those skilled in the art from the specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an illustration of two elements of the inventive graphical user interface and the two elements combined or fused together.

Figure 2 illustrates a group of elements in one embodiment of the present invention.

Figure 3 illustrates the group of elements in a tree arrangement illustration of an embodiment of the present invention.

Figure 4 shows an embodiment with a static element.

Figure 5a shows one embodiment of an element.

Figure 5b is a graphical illustration of the height values of the element from Figure 5a taken along line 5b - 5b.

Figure 6 shows an embodiment showing the fusion of edges of dynamic zones of two elements.

Figure 7 is a flow diagram summarizing an initialization procedure for one embodiment of the invention.

Figure 8 is a flow diagram illustrating a calculation process for the merging of the dynamic zones or edges of one or more elements in an embodiment.

Figure 9 is an illustration showing one use of the present invention with elements of different shapes.

Figure 10 is an illustration showing another use of the present invention with the elements arranged to form a design in the shape of an alligator.

Figure 11 is a further illustration showing the elements of the present invention arranged to form a design in the shape of a locomotive.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

In the specific embodiments to be described, the invention provides a dynamic graphic user interface in an application program.

Turning now to Figures 5a and 5b, the element 10 is shown with the core 12 and edge or dynamic zone 14 in a preferred embodiment. In Figure 5b, each point of the element 10 can be assigned a numerical value. This is illustrated with a conventional x - y axis in Figure 5b, with the y-axis values representing the numerical value assigned to the point, also called a height value. For all the points which are inside the core 12, the height is preferably equal to a value of one as illustrated in Figure 5b.

For all points which correspond to the edge 14, the height varies from a value of one, if the point is close to the core 12, and tends towards zero value as one moves away from the core 12 as also shown in Figure 5b. Persons skilled in the art will recognize that the two-dimensional representation in Figure 5b applies to other transverse sections through the element 10 and that the core 12 and edge 14 can be represented by a three dimensional array of height values.

As shown schematically in Figure 7, the array of height values is initialized at the creation of an element 10 according to the shape of the core 12. The initialization procedure is a process that associates the core 12 of an element 10 with a edge or dynamic border 14. At step 700, the graphical resources are searched and resources for the core mask 700a and core pictures 700b is searched to find one that matched the shape of the core 12. The edge of dynamic border 14 is computed using a previously defined mask of the core 12 provided for the element 10. From this mask, the shape of the core 12 is extracted and using this shape the array of height values for the edge 14 are calculated as described in connection with Figures 5a and 5b and the result is shown at step 704 in Figure 7. As can be appreciated by skilled persons, once

this array is calculated it can then be modified to render different textures and colors for each element 10.

In a preferred embodiment shown in Figure 6, a user can fuse together two or more edges 14 and 14a of two or more elements 10 and 10a. A preferred operation of the edge manager of the specific embodiment for fusing two or more edges 14 and 14a is described in connection with Figure 8. At the start of Figure 8, the user moves first element (designated A) in step 800. Block 800A is the process of retrieving the list of elements that are touching element A. In detail, step 802 reviews the global list of elements and a determination is made at step 804 as to whether the next element is touching element A. If the answer is yes, then step 806 adds that element to the touching list and then transfers the operation to step 808. If the answer is no, the operation is transferred to step 808 which asks if the current element is the last one in the global list. If the answer is no, then the operation is transferred back to step 802 to retrieve the next element in the global list, repeating the above steps for the next element. If the answer is yes, then the operation is transferred to Block 800B which is the merging block.

In detail, Block 800B retrieves the next element from the previously assembled touching list at step 810 and then, at step 812, asks if that element includes a dynamic border.

If the answer is yes, then the border of that element is merged with the border of element A in step 814 and operation is transferred to step 816. If the answer at step 812 is no, the operation is transferred to step 816 which asks if the current element is the last one in the touching list. If the answer is no, operation is transferred back to step 810 to get the next element in the touching list. If the answer is yes, operation is transferred to step 820.

At step 820, the merged dynamic borders are rendered and then at step 830 the core and dynamic border is displayed. When the user moves an element 10 toward another element 10a, a determination is made if the borders of elements 10 and 10a are going to overlap and this process is done for all additional elements that overlap or touch element 10 as shown in Figure 8. When two elements merge, the merged portion is calculated using the addition of two height arrays as shown graphically in Figure 6.

When an edge 14 merges with more than one other edge, the arrays corresponding to the touching edges 14 and 14a are added to obtain the global

array for the merged portion which will be the merged dynamic border. The merged edge array is equal to the sum of all the edge arrays of the elements in the merged group.

The melted color aspect of the edges is achieved by using the height values of each edge array to mix the colors of each element doing a weighted average. For two colors, say C1 and C2, and using the height of each edge, say a1 and a2, the melted or final color, Cf, of the global edge is preferably calculated using the equation:

$$Cf = (C1 * a1 + C2 * a2) / (a1 + a2)$$

Creation of Groups

If the edges 14 and 14a of two or more elements 10 and 10a are merged, it is possible to freeze or "stick together" all the elements as shown in Figure 2. This arrangement will behave in the same way that a single element 10 behaves and is called a group 30. This group 30 comprises as many cores 12 as there were in all the elements comprising the group 30 and the position of one of the cores 12 is fixed relative to the other cores in the group 30 as shown in Figure 2. This group 30 could be merged again with another element 10b. A group 30 behaves like a single element 10, so it is possible to create a new group 30a

from a set of elements composed of groups. As shown in Figure 2, a group 30a of three cores 12 is created and can be made of a single element which is yellow and another group 30 made up of a green element 10 and a red element 10a.

This grouping process can be repeated as long as elements remain to be "stuck" together. This grouping procedure can be represented as a tree structure as shown in Figure 3, whose "leaves" would be simple elements (10, 10a, 10b, . . .) and whose nodes would be the grouped elements. Once the group 30a is created, the elements of the group 30a can be removed from the group 30a. For example, as graphically illustrated in Figure 3, the elements can be removed by going along the tree from the group 30a and sequentially removing the elements from the group 30a so that only single elements remain. The user configured groups can include many different designs as illustrated in Figures 9, 10 and 11.

Static/Dynamic Aspect of the Edge

In another preferred embodiment, an edge 14 can be static meaning it cannot be merged with other edges 14a. In this embodiment, the static edge 14 behaves like a standard window and passes on top of the other elements as shown in Figure 4. In one embodiment, the static edge 14 can be altered to be

a dynamic edge. For example, if an element 10 with a static edge 14 is on top of another element 10a with a dynamic edge as shown in Figure 4, the static edge 14 can be turned into a dynamic edge if the core 12 of elements 10 does not overlap with any of the cores of element 10a. For the example shown in Figure 4, the static edge 14 cannot be turned into a dynamic edge since its core 12 overlaps the cores of the overlapped or subjacent elements.

While embodiments of the present invention and modifications thereto have been shown and disclosed in the drawings and specification, alternate embodiments of the present invention will be apparent to a person of ordinary skill in the art and this application is intended to include those embodiments within the full breadth and scope of the claims. The present invention is not limited by any parameters described herein and the present invention need not include all of the features disclosed in the single embodiment, but rather one or more features may be included.

What is claimed is:

1. A method utilizing a graphical user interface in a computer system, comprising the steps of:

executing an application program within the computer system with a graphical user interface comprising a plurality of elements, each of said elements being associated with a set of commands; and

changing the shape of at least one of said elements when two or more said elements are in close proximity.

2. A method utilizing a graphical user interface in a computer system, comprising the steps of:

executing an application program with a graphical user interface comprising a plurality of elements, each said element being associated with a set of commands; and

fusing the edge of two or more of said elements together when said two or more elements are in close proximity.

3. A method utilizing a graphical user interface in a computer system, comprising the steps of:

executing an application program with a graphical user interface comprising a plurality of elements, each said element being associated with a set of commands; and

changing the graphical representation of one or more of the said elements when two or more of said elements are in close proximity.

ABSTRACT

A Graphical User Interface or "GUI" for use with a computer operating systems that operates dynamically according to the user's preferences. Each element of the GUI is surrounded by a dynamic edge which allows the user to combine two or more elements together to create a visually coherent unit in real time. Users can merge or fuse together two or more edges together thus creating a combined group that has aspects and qualities from the constituent elements. Particular colors and color combinations can be created by the user along with user selected shapes and sizes of individual elements selected from a library of element shapes and sizes. The grouped elements can then be separated back to the individual elements for use in different applications or other groupings as later desired by the user.

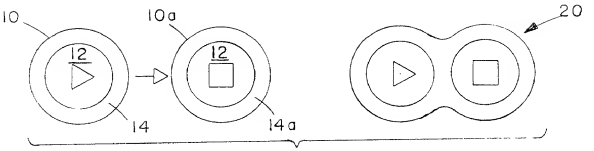

FIG. 1

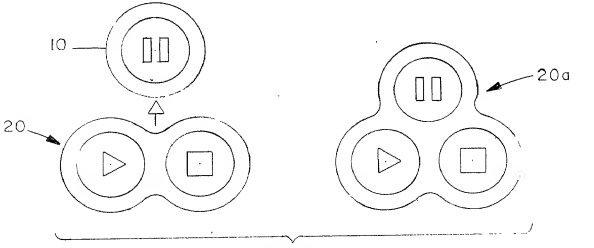

FIG. 2

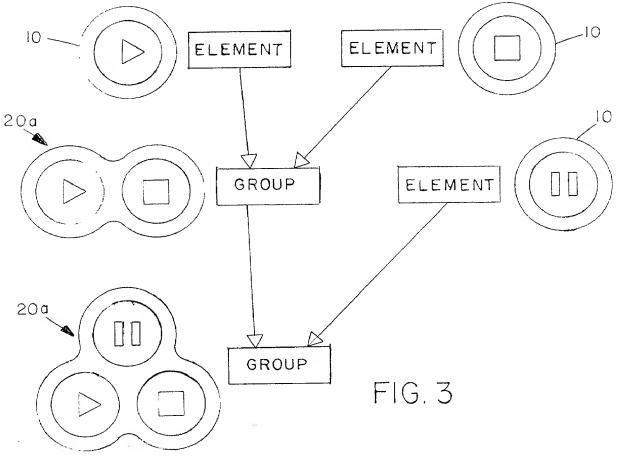

FIG. 3

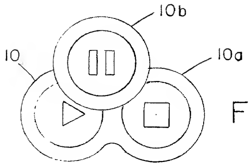

FIG. 4

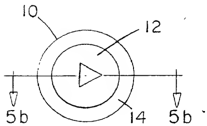

FIG. 5A

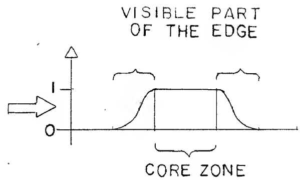

FIG. 5B

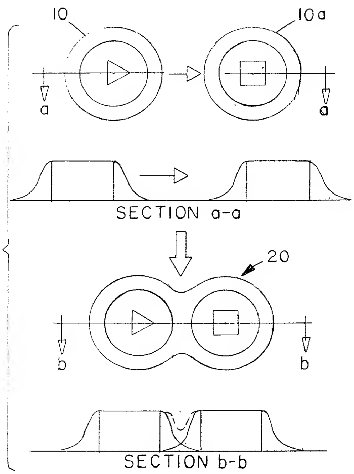

FIG. 6

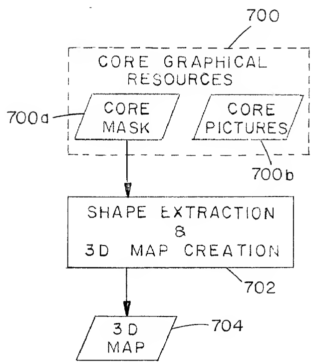

FIG. 7

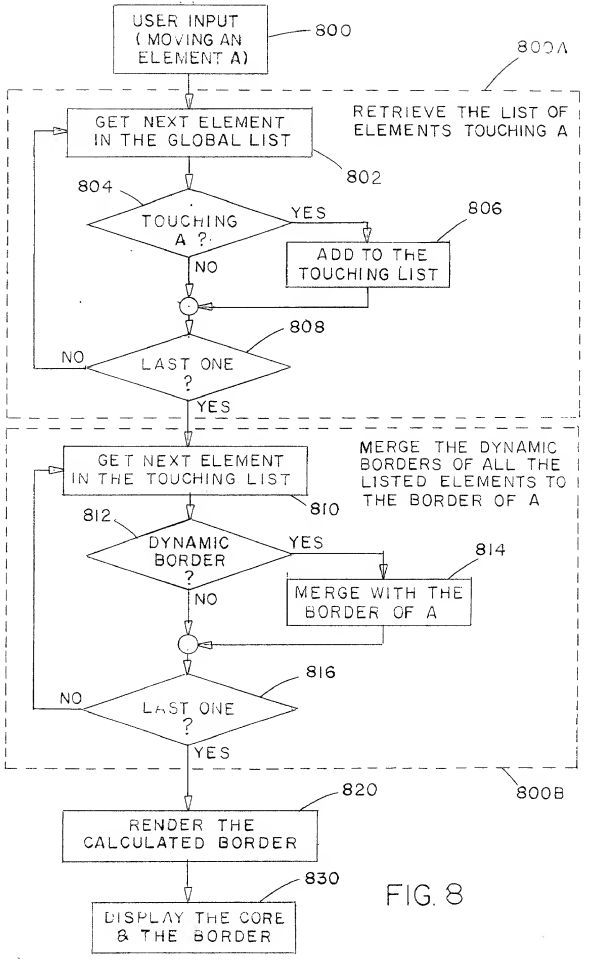
USER INPUT (MOVING AN ELEMENT A)
800
800A
RETRIEVE THE LIST OF ELEMENTS TOUCHING A
GET NEXT ELEMENT IN THE GLOBAL LIST
802
804
TOUCHING A ?
YES
NO
806
ADD TO THE TOUCHING LIST
808
NO
LAST ONE ?
YES
MERGE THE DYNAMIC BORDERS OF ALL THE LISTED ELEMENTS TO THE BORDER OF A
GET NEXT ELEMENT IN THE TOUCHING LIST
810
812
DYNAMIC BORDER ?
YES
NO
814
MERGE WITH THE BORDER OF A
816
NO
LAST ONE ?
YES
800B
820
RENDER THE CALCULATED BORDER
830
DISPLAY THE CORE & THE BORDER

FIG. 8

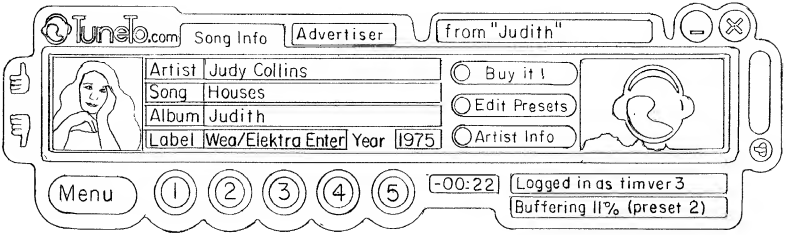

FIG. 9

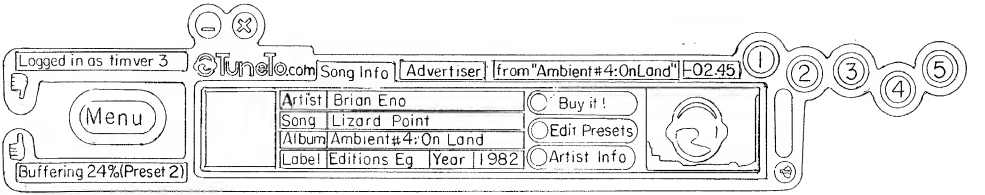

FIG. 10

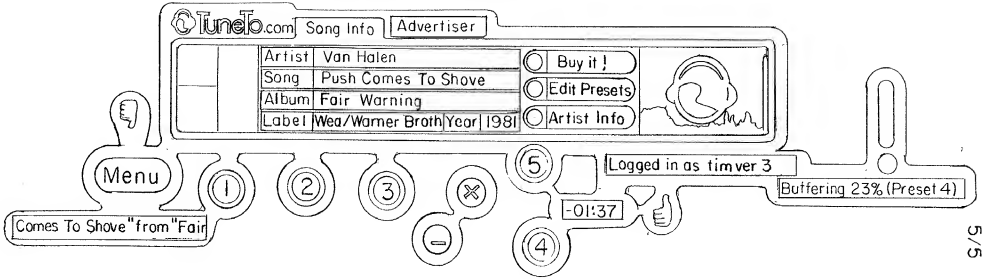

FIG. 11

PTO/SB/01 (12/97)
Approved for use through 09/30/00. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

Attorney Docket	8058-PA01
First Named Inventor	Alexander Marc Jacques Brouaux
	COMPLETE IF KNOWN
Application Number	UNKNOWN
Filing Date	HEREWITH
Group Art Unit	
Examiner Name	

[X] Declaration Submitted with Initial Filing [ ] Declaration Submitted after Initial Filing

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

DYNAMIC GRAPHIC USER INTERFACE

(*Title of the Invention*)

the specification of which

[X] is attached hereto

OR

[ ] was filed on (MM/DD/YYYY) _____ as United States Application Number or PCT International Application Number _____ and was amended on (MM/DD/YYYY) _____ (if applicable.)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Numbers	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			[ ]	[ ]	[ ]
			[ ]	[ ]	[ ]
			[ ]	[ ]	[ ]
			[ ]	[ ]	[ ]

[ ] Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)

[ ] Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto

DECLARATION - Utility or Design Patent Application

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365(c) of any PCT International application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior Unite d States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Patent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. Registered practitioner(s) name/registration number listed below:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR:	☐ A petition has been filed for this unsigned inventor				
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☐ Additional Inventors are being named on the supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.